

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for separating IgG half antibodies from IgG whole antibodies;
~~wherein the half antibodies and the whole antibodies are of the same isotype~~, comprising:
obtaining a sample that contains a mixture of IgG half antibodies and IgG whole antibodies
of the same isotype;
reducing the pH of the sample such that the half antibodies dissociate from one another to
form a resulting solution that contains dissociated IgG half antibodies and IgG whole
antibodies; and
applying the resulting solution to a column that differentially retards the mobility of the
IgG half antibodies and IgG whole antibodies.
2. (Original) The method of claim 1, wherein the column retains both the IgG half antibodies and
the IgG whole antibodies present in the resulting solution.
3. (Original) The method of claim 2, wherein the column is an ion exchange column.
4. (Original) The method of claim 3, wherein the ion exchange column is a cation exchange
column.
5. (Original) The method of claim 2 further comprising subjecting the column to conditions which
selectively elute IgG half antibodies retained by the column.
6. (Currently Amended) The method of claim 5, wherein the conditions which selectively elute
IgG half antibodies retained by the column comprise adding a buffer to the column such that
the pH of ~~the~~ buffer present within the column is increased to a level sufficient to
selectively elute the IgG half antibodies.
7. (Original) The method of claim 6, wherein the pH of the buffer present within the column is
increased to about 7.0 or greater.

8. (Original) The method of claim 5 further comprising subjecting the column to conditions which elute IgG whole antibodies retained by the column.
9. (Original) The method of claim 8, wherein the conditions which elute IgG whole antibodies comprise adding a buffer to the column such that the ionic strength of the buffer present within the column is increased to a level sufficient to elute the IgG whole antibodies.
10. (Original) The method of claim 1, wherein the IgG half antibodies and the IgG whole antibodies are of the IgG4 isotype.
11. (Original) The method of claim 1, wherein the IgG half antibodies and the IgG whole antibodies are of the IgG1, IgG2, or IgG3 isotype.
12. (Original) The method of claim 1, wherein the IgG half antibodies and the IgG whole antibodies are mammalian IgG half antibodies and IgG whole antibodies.
13. (Original) The method of claim 12, wherein the mammalian IgG half antibodies and IgG whole antibodies are human IgG half antibodies and IgG whole antibodies.
14. (Original) The method of claim 12, wherein the mammalian IgG half antibodies and IgG whole antibodies are chimeric IgG half antibodies and IgG whole antibodies.
15. (Original) The method of claim 12, wherein the mammalian IgG half antibodies and IgG whole antibodies are F(ab)₂ half antibodies and F(ab)₂ whole antibodies.
16. (Original) The method of claim 1, wherein the sample is obtained from milk.
17. (Original) The method of claim 16, wherein the milk is from a mammal.

18. (Original) The method of claim 16, wherein the milk is from an ungulate, pig, rabbit, or mouse.
19. (Original) The method of claim 1, wherein the sample is obtained from an egg.
20. (Original) The method of claim 1, wherein the sample is obtained from serum.
21. (Original) The method of claim 1, wherein the sample is obtained from cell culture medium.
- 22-30. (Canceled)
31. (Currently Amended) A method for separating IgG half antibodies from IgG whole antibodies;
~~wherein the half antibodies and the whole antibodies are of the same isotype~~, comprising:
obtaining a sample that contains a mixture of IgG half antibodies and IgG whole antibodies
of the same isotype;
reducing the pH of the sample such that the half antibodies dissociate from one another to
form a resulting solution that contains dissociated IgG half antibodies and IgG whole
antibodies;
applying the resulting solution to an ion exchange column such that both the IgG half
antibodies and IgG whole antibodies are retained by the column;
adding a buffer to the column such that the pH of ~~the~~a buffer present within the column
increases to a level sufficient to selectively elute the IgG half antibodies; and
subsequently adding a buffer to the column such that the ionic strength of the buffer
present within the column increases to an amount sufficient to elute the IgG whole
antibodies.
32. (Original) The method of claim 31, wherein the sample is obtained from milk.
33. (Original) The method of claim 32, wherein the milk is from a mammal.

34. (Original) The method of claim 33, wherein the milk is from an ungulate, pig, rabbit, or mouse.
35. (Original) The method of claim 31, wherein the sample is obtained from an egg.
36. (Original) The method of claim 31, wherein the sample is obtained from serum.
37. (Original) The method of claim 31, wherein the sample is obtained from cell culture medium.
38. (Original) The method of claim 31, wherein the IgG half antibodies and the IgG whole antibodies are of the IgG4 isotype.
39. (Original) The method of claim 31, wherein the pH of the sample is reduced to a pH below 4.0.
40. (Original) The method of claim 36, wherein the pH is reduced to a pH between about 2.0 to 4.0.
41. (Original) The method of claim 40, wherein the pH is reduced to a pH of about 3.5.
42. (Original) The method of claim 31, wherein the ion exchange column is a cation exchange column.
43. (Original) The method of claim 31, wherein the pH of the buffer present within the column is increased to at least 6.5 or greater.
44. (Original) The method of claim 43, wherein the pH of the buffer present within the column is increased to about 7.0.
- 45-56. (Canceled)

57. (Original) The method of claim 1, wherein said column is a HIC column.

58. (Canceled)

59. (Original) The method of claim 2, wherein said column is a HIC column.

60. (Original) The method of claim 5, wherein said column is a HIC column.

61. (Original) The method of claim 6, wherein said column is a HIC column.

62. (Canceled)